



# Bridging the Currents:

## Assessing East Asia's Potential in Cross-border Electricity Cooperation

Presentation school:

Kaohsiung Municipal Kaohsiung Senior High School

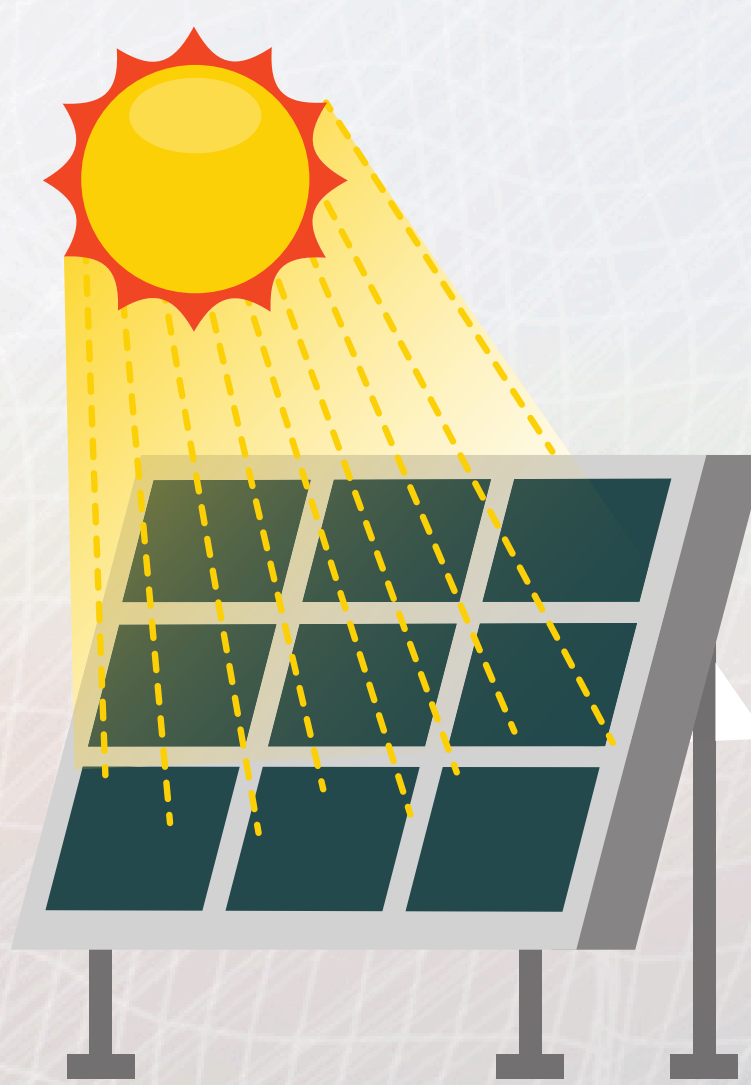
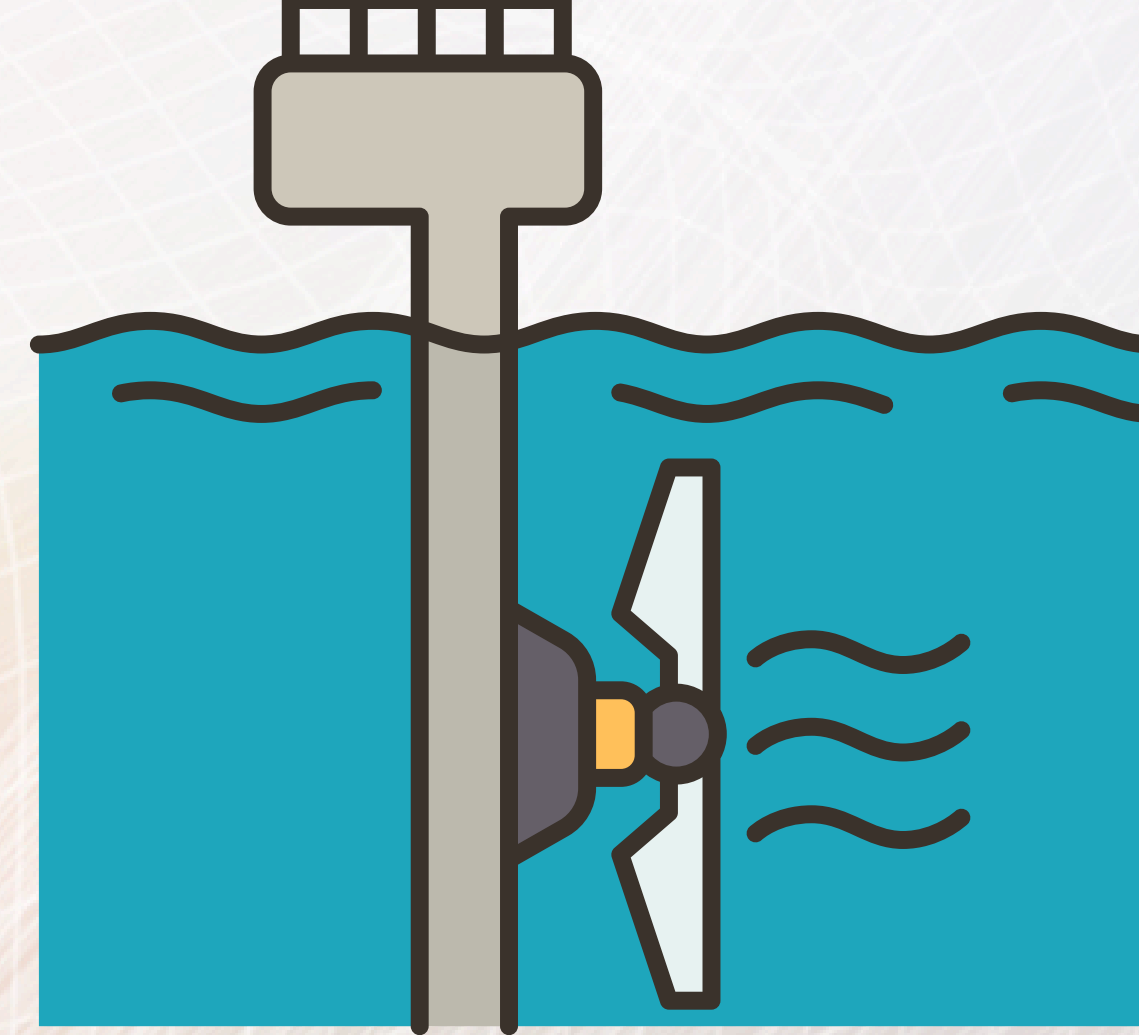
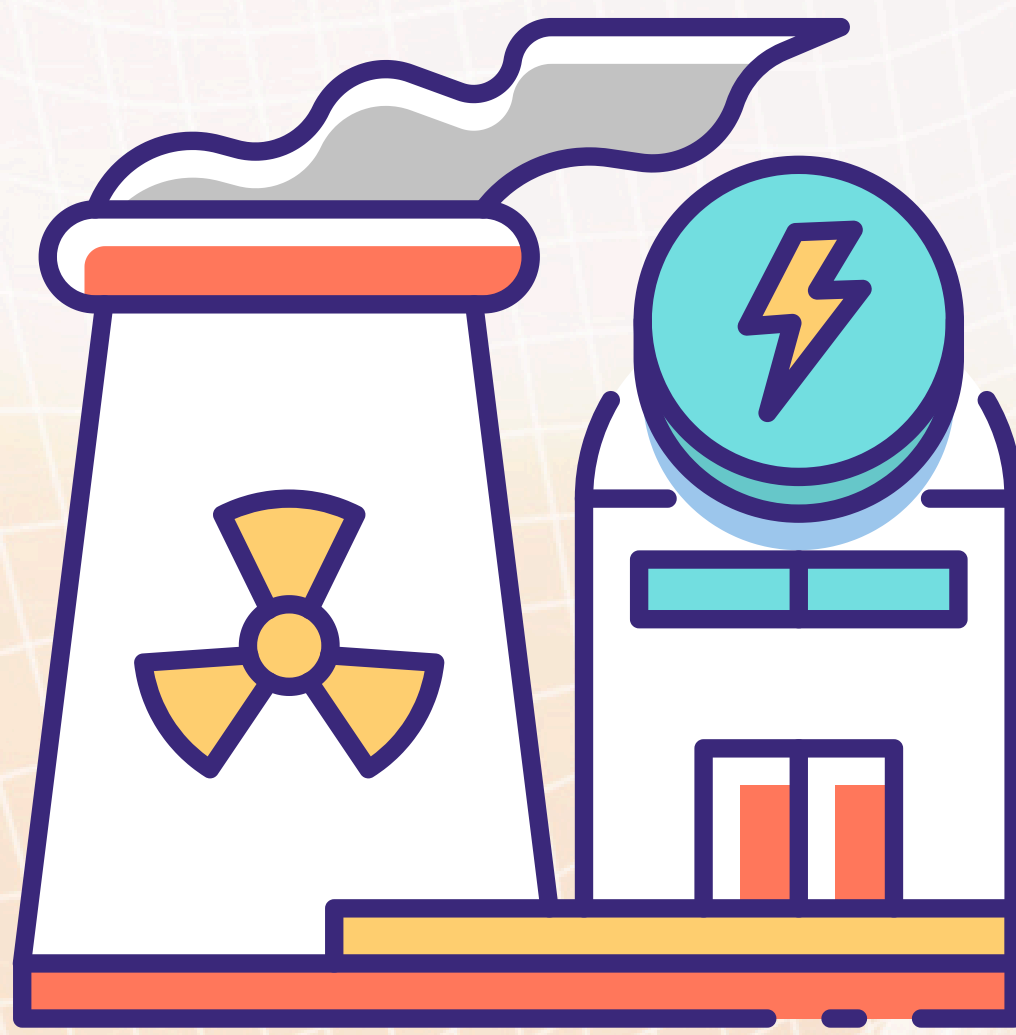
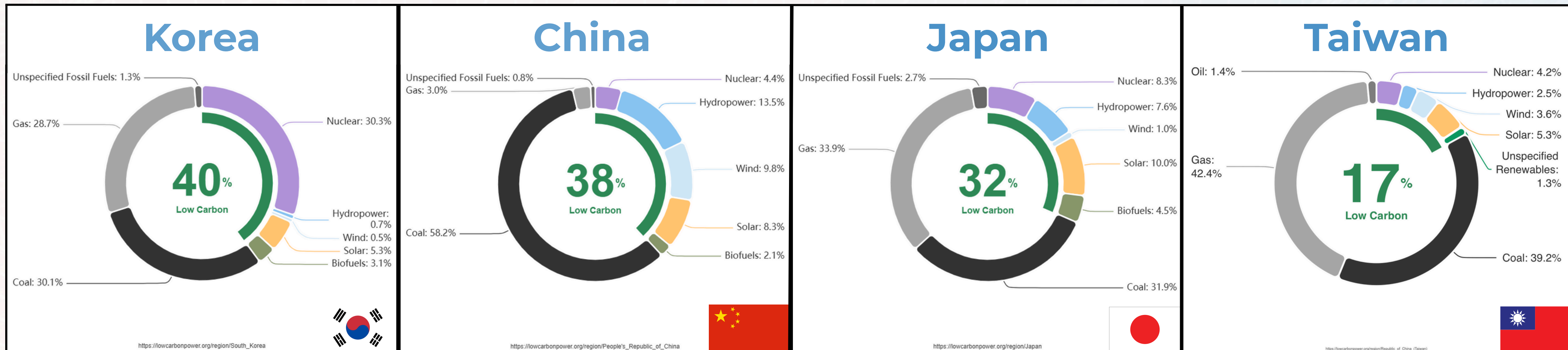
SDGs Targets :

7(Affordable and Clean Energy)

17(Partnerships for the goals)

Low carbon rate(2024):

South Korea(40%) > China(38%) > Japan(32%)>Taiwan(17%)



### What is Cross-Border Electricity Cooperation

- 1.cross-regional power generation technology
- 2.enhance the cooperation between different regions
- 3.improve the efficiency of green energy use

### Motivation and Purpose

- 1.East Asian Grid Reciprocity
- 2.Environmental sustainability
- 3.Reducing dependence on fossil fuels
- 4.Increase the use of green electricity

### Research Methods

- Provide electricity information
- Provide world ocean current data
- Provide international policy information

### High Voltage Direct Current

- 1.Long distance, large capacity, point-to-point transmission
- 2.Underwater long-distance power transmission
- 3.Realize the connection between new energy generation points and AC systems

### Cable Limits, Energy Bottlenecks

- 1.Cables are difficult to install in remote, mountainous, or cross-sea regions.
- 2.Transmission is hindered, leading to inefficient energy distribution.
- 3.If renewable energy cannot be delivered, it becomes wasted potential.

### Conclusion

Encourage resource sharing



Promote regional demonstration networks.



Achieve a fully connected grid.

### Future Possibilities

- Wireless power transmission
- Space-based energy systems
- Alternative solutions beyond cables

#### References

Electricity data(South Korea) Searched from:  
<https://lowcarbonpower.org/zht/region/%E5%8D%97%E9%9F%93>

Electricity data(Japan) Searched from:  
<https://lowcarbonpower.org/zht/region/%E6%97%A5%E6%9C%AC>

Electricity data(China) Searched from:  
<https://lowcarbonpower.org/zht/region/%E4%B8%AD%E8%8F%A%E4%BA%BA%E6%B0%91%E5%85%B1%E5%92%8C%E5%9C%8B>

HVDC technology Searched from:  
<https://www.allumiax.com/blog/high-voltage-direct-current-hvdc-transmission>

Electricity data(Taiwan) Searched from:  
<https://lowcarbonpower.org/zht/region/%E4%B8%AD%E8%8F%A%E6%B0%91%E5%9C%8B%E5%BC%88%E5%8F%B0%E7%81%A3%E5%BC%89>

HVDC technology Searched from:  
<https://dataknit1988.blogspot.com/2013/11/blog-post.html>